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ABSTRACT

To evaluate the use of semantic organizers as a means of improving the prewriting techniques of composition students, a study was made of two separate groups of college freshman composition students during an intensive, five-week writing workshop. Data were also collected from case studies of students in the experimental group, including frequent interviews and informal discussions. The experimental group was taught the use of semantic organizers as part of their prewriting process. This involved teaching them how to organize their brainstorming of a topic around a key word or nucleus phrase, allowing for the flowing of concepts from that key word. The control group was taught to use more conventional prewriting approaches, particularly modeling and outlining procedures. The instruments for comparative evaluation were students' written responses to three letters from their instructors on identical topics at three points during the course--the beginning, middle, and end. The comparison of results from the three test themes showed surprisingly strong general progress for the experimental group using semantic organizers, while the progress of the control group was slightly better than what had been anticipated for the test group as a whole. Results also seemed to suggest that the use of semantic organizers improved student attitudes and increased motivation. (HOD)

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WRITING WITH THE RIGHT BRAIN:

THE USE OF SEMANTIC ORGANIZERS

by

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Northern Montana College
January, 1985

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WRITING WITH THE RIGHT BRAIN: THE USE OF SEMANTIC ORGANIZERS

William Thackeray

ABSTRACT

Semantic organizers, a device originating from cognitive psychology and used in reading research and for special learning students (See Pehrsson; Pehrsson and Robinson), have not been widely adopted as a tool for teaching developmental writers although related devic and procedures have been recommended (See Buzan; also particularly Rico). This descriptive study of the developmental writing student on the college level, using both case study methods and grade comparisons between an experimental group employing semantic organizers as a prewriting technique and a control group employing other prewriting procedures, demonstrated significant improvements in both writing performance and attitudes toward writing for the experimental group.

WRITING WITH THE RIGHT BRAIN: THE USE OF SEMANTIC ORGANIZERS

The purpose of the following study was to evaluate semantic organizers as a means of improving the prewriting techniques of composition students. The study consists of a controlled comparison of writing progress between two separate groups of freshman composition students during an intensive writing workshop of five weeks, and case studies of students in the experimental group, including frequent interviews and informal discussions. This kind of descriptive study was felt to be most appropriate for evaluating the effects of semantic organizers, both on the attitudes of student writers and on their writing progress.

As we shall indicate, semantic organizers have been developed as a means for involving the right brain in language use.

BACKGROUND AND THEORY

Isolating the principal language areas of the brain began in the nineteenth century with the work of Paul Broca and Carl Wernicke, who conducted autopsies of the brains of aphasic patients to determine the source of their particular language disorders. The work of Broca and Wernicke led to the identification of the major language areas in the left hemisphere of the neo-cortex. Broca's area, which is now regarded as the principal area of speech production, is located just forward of the motor face area of the brain, that area which controls face and jaw muscles and, hence, speech formulation.

Shortly after Broca's isolation of the speech production area, Wernicke identified another area of the brain much nearer the occipital lobe as the source of speech comprehension. Injury to Wernicke's area caused an unusual aphasia, during which the victim might speak very rapidly and rhythmically, preserving grammar and articulation, but with speech completely lacking in sense or content.

Split-Brain Research

Despite the work of Broca and Wernicke in identifying the areas of language production, the isolated and seemingly

independent functioning of the left and right hemispheres was not well understood until the work of R. W. Sperry. With his associates Sperry conducted a series of experiments with patients who had undergone a commissurotomy or severing of the corpus collosum and other major nerve fibers and commissures connecting the two hemispheres of the brain. The first effects of such an operation, which was used to control severe epileptic seizures, appeared to result in little disturbance of ordinary behavior, including speech behavior. Subtle experiments by Sperry and others, however, demonstrated that the commissures play a vital role in cross-communicating data and memories learned by one hemisphere but not the other. The results of these experiments indicated that the two hemispheres operate as two separate learning units, to a great extent independent of each other. Further experiments by Sperry's team identified separate functions and strengths of the two hemispheres. Apparently because of its capacity for language, the left hemisphere was identified as dominant for the great majority of patients (Sperry, 65-70).

Because victims with right hemispheric damage or injury suffered little language impairment while left hemisphere victims often suffered severe aphasia or total loss of language, the right hemisphere was determined to have little language capability. Up to this time, however, investigations of brain function still depended on experiments with abnormal or impaired

brains. Robert Ornstein pioneered investigations of normal brain capacities. In experiments measuring the "brain-wave" patterns of normal persons during the conduct of various activities, Ornstein identified the side of the brain that seemed to be primarily responsible for the performance of different kinds of tasks. Language, logic, analysis, writing, and linear brain functions were found to be part of left hemispheric activity; imagination, color response, music, rhythm, spatial identifications, and "what our verbal intellect can only term 'intuition' " were activities of the right hemisphere (Ornstein, 76-80).

Right Brain Linguistic Capacity

The capacity of the right brain to assume language functions "in compensation" for impairment of the left brain or for some other unusual reason has been generally acknowledged (Sperry, 65). However, the significance of the right hemisphere for ordinary speech and writing in the normal brain was not fully appreciated until the subtle investigations of language production reported by Howard Gardner.

Gardner has surveyed the evidence that "has accumulated to suggest that linguisitc capacity may not be mediated entirely by the left hemisphere" (295). Gardner's evidence suggests two language capacities which seem dependent on the right brain.

First, in the normal brain the right hemisphere seems to be the source of metaphoric language and metaphoric word usage. Second, the right hemisphere seems to have the exclusive power to recognize the connotative power of language. The normal left hemisphere seems to have neither of these capabilities.

Patients with right hemisphere injuries, for instance, will interpret a proverb such as "Too many cooks spoil the broth" in a very literal sense. Typically, they will say the proverb means that too many cooks are harmful when cooking chicken soup.

> Such individuals have no difficulty in appreciating the literal meanings (denotations) of terms or in responding appropriately to questions. However, they appear lacking in the ability to appreciate the less literal implications or connotations of a question, or the nuances of a familiar metaphor or utterance (Gardner, 295).

In their own speech and writing, such patients demonstrate an "avoidance of the metaphorical, [a] penchant for the concrete particular" (Gardner, 295-296).

Equally detrimental to his competence as a writer, the patient with right brain dysfunction shows little sense of language as part of a more abstract element of communications. He shows little sense of audience or meaningful reaction to his surroundings:

> The patient's command of grammar and of sound structure seem unchanged, but the relationship between his capacity to express himself in language and his knowledge of the world is impaired. He resembles a kind of language machine, a talking computer that decodes literally what is said, and gives the most immediate (but not necessarily the implicitly called for) responses, a rote rejoinder insensitive to the ideas behind the questions, the intentions or implications of the questioner. And in his spontaneous speech, the patient again seems to neglect the emotional quality of the present situation. . . (Gardner, 296-297).

We might conclude from Gardner's comments that much of what we are concerned to teach the developmental writer in college composition classes derives from the right brain. Sense of audience, appropriateness of usage, level of language, use of figure and metaphor, and general organization or structuring of material all seem heavily dependent on the right brain.

Right Brain Writing

Along with Gardner, Downey (16-18, 20-34, 56-72) and Winterowd (153-168) concur that right hemispheric involvement is essential to writing achievement; however, both see the right brain as having different writing capabilities and both have different suggestions for right brain involvement.

Downey is chiefly concerned with exercising the right brain to overcome so-called "writers' block" (56). He recommends a series of exercises, which may, indeed, get a writer started, but he presents little evidence that these admittedly useful exercises serve any other purpose.

Following Joseph E. Bogen (144-145), Winterowd characterizes the left hemisphere as propositional or logical and the right hemisphere as appositional or imagist (154). Unfortunately, Winterowd appears to be unaware of the physiological research with the brain reported by Gardner. As a result, he appears to assume incorrectly that the left brain is the source of metaphor while the right brain is the source of synecdoche and image (162-168). This assumption would seem quite contrary to the research reported above by Gardner.

The Semantic Organizer

Buzan (91-116), Rico, and Pehrsson are all in agreement that the semantic organizer is the best available means for consistently initiating right brain involvement in the writing process. Rico credits brain research and psychiatry as the sources for his concept of the semantic organizer, which is also termed clustering, webbing, mazing, and mind mapping (9-11). Pehrsson credits brain research, psycholinguistic theory, cognitive psychology, schema theory, and reading research as being the sources of his concept of the semantic organizer (Pehrsson, 1-4; Pehrsson and Robinson, 21-26). While Rico is concerned with college level students and Pehrsson is chiefly concerned with K-12 students and students with special learning needs, the device of the organizer that they describe is for practical purposes identical.

In the writing process the semantic organizer is a prewriting tool for organizing the product of a writer's brainstorming of a subject. The concept involves careful selection of a key word or "nucleus word or phrase," to use Rico's term. Then, the writer begins a free-flowing or brainstorming procedure of developing concepts flowing from that term, clustering them around the nucleus in a clockwise direction beginning at 1 o'clock. Each concept is characterized by a brief word or phrase, and derivative concepts may be attached to initial con-

cepts. For instance, following is a semantic organizer developed by a student on the concept of semantic organizers:

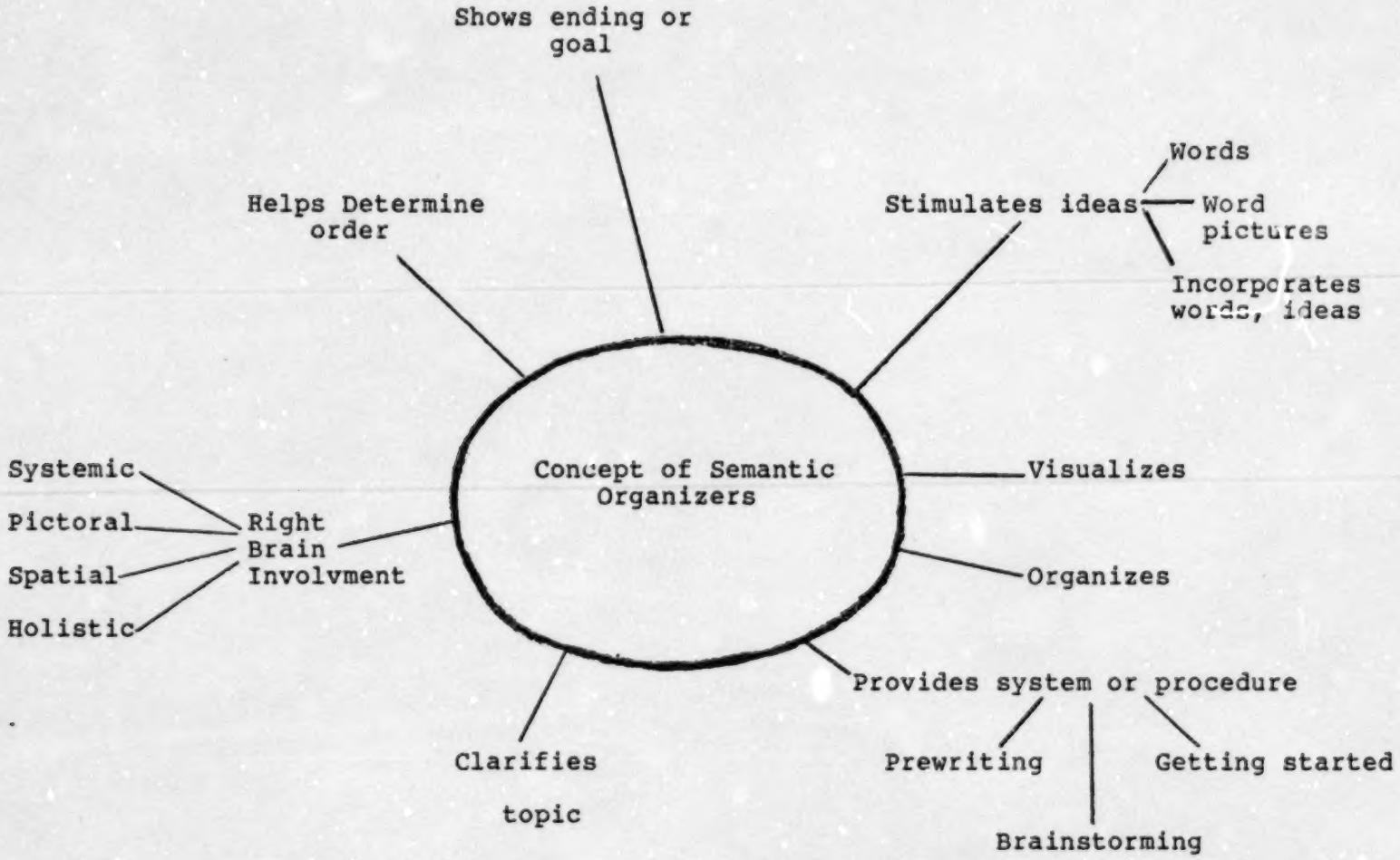

Figure 1. The Concept of Semantic Organizers. The ideas or concepts derived from brainstorming are "clustered" around a central nucleus or key concept.

As Rico points out (31), nucleus selection is an important part of the successful use of the semantic organizer. This nucleus may be a word, a phrase, or a dominant impression. Typically, it should be a key word or concept of the thesis for the composition, and it should incorporate the general focus of the paper.

Once the clustering or brainstorming procedure is completed, then the writer organizes and numbers those concepts he wishes to develop in his paper. Before he has finished his writing project, he may complete a series of such clusters or semantic organizers. My study attempts to determine if involvement of the right brain through the use of semantic organizers is beneficial to the training of developmental writers.

THE NATURE OF THE STUDY

The purpose of this study was to test the usefulness and effectiveness of semantic organizers as a part of the process of teaching composition to developmental writers in a second quarter college composition class. Two classes taught in a similar fashion, one using semantic organizers and the other using other compositional teaching techniques, were compared, and the progress of students in each class was evaluated.

Evaluation Procedures

The instruments for comparative evaluation were students' written responses to three letters from their instructors. The three letters for evaluation were elicited as in-class writing assignments on the first day of class, on the eighth day of class, and on the fourteenth or next to last day of class. The two classes initially registered 15 and 18 regularly registered college students; however, for reasons of absenteeism the numbers for overall comparison were precisely 15 in each class, an optimum number for close evaluation and case study techniques.

Evaluation of the student responses to the letters was undertaken by three experienced composition instructors. Originally, these evaluators were instructed to pay particular

attention to qualities of organization and distribution of materials, assuming that these elements of student writing would be most affected by semantic organizers. However, for reasons to be discussed shortly, it was decided that the papers should be evaluated and compared using holistic grading techniques, admittedly impressionistic as this procedure may be. The results of these evaluations were compared only after the completion of the project. At that point, observable differences were discussed with the senior grader and consultant for the project at Northern Montana College, Dr. Mary Blew.

Grading consisted of rating each paper on a scale of 1 to 5, 5 being high, 1 low. Final grades for each paper consisted of the sum of the three grades, for a possible total score of 15. Pluses and minuses were regarded as 1/3 of a grade up or down. Grading standards were progressive reflecting what a student's writing capability should be at the beginning, middle, and end of his second quarter of college composition instruction.

The Experimental Group and the Control Group

Although the experimental group, which was taught to use semantic organizers as a part of their prewriting process, and the control group, which was taught to use other more conventional prewriting approaches involving particularly

modeling and outlining procedures, were taught by different instructors, considerable effort was made to maintain otherwise similar approaches to the two classes. Similar numbers of students were included in each class; similar syllabi were developed; similar workshop (seminar) approaches were used; and similar texts were adopted, Hairston (1982) for the experimental group and McCrimmon (1984) for the control group. The classes met at identical times for two hours a day, three days a week, for five weeks.

No effort was made at registration time to insure a balance of students in the two classes; however, in fact, such a balance did seem to result from the random selection process of registration; nearly half of each class consisted of first year nursing students while the balance of each class was made up of education, vocational, and business students.

The Preliminary Study

Rico (11) has delineated the particular achievements of student writing that he attributes to the use of semantic organizers or, to use his terminology, to the use of the clustering process. After the introduction of clustering to his class, says Rico,

> From that day on, through the use of the nonlinear brainstorming process of clustering, my students'

> writing made a dramatic turnabout, and it has been my approach to teaching writing ever since.
>
> In time, I began to examine the brief daily ten-minute writings that resulted from the clusters. Almost all demonstrated a coherence, unity, and sense of wholeness; a recurrence of words and phrases, ideas, or images that reflected pattern sensitivity; an awareness of the nuances of language rhythms; a significant and natural use of images and metaphors; and a powerful "creative tension."
>
> Another by-product of clustering seemed to be a significant drop in errors of punctuation, awkward phrasing, even spelling (Rico, 11).

Despite Rico's claims, what precise writing improvements we were looking for as a result of the use of clustering remained somewhat vague. Our elusive dissatisfaction with what we regarded as Rico's rather extravagant claims for the advantages of clustering led us to develop a preliminary study as a means for determining what improvements we might reasonably expect from introducing students to the use of semantic organizers. The results of the preliminary study caused a revision in our evaluation procedure and the adoption of holistic grading procedures; therefore, I will report the results of the pre-

liminary study in some detail.

To set up the preliminary study, the experimental group was given an in-class writing assignment on the third day of class before the topic of semantic organizers had been introduced. This writing assignment, which called for "one or two paragraphs," was based on Hairston's "Suggested Writing Assignments," Theme 1 (32-33). The assignment was to be completed and turned in by the end of the period. My logged reactions to the initial assignment are as follows:

> After brief preliminary discussion of the topic and various possible approaches to it, I turned the class loose to begin writing at 12:20, thus giving them a full half-hour to write before the end of the period, plus a ten minute overlap to finish up before the next period began.
>
> Long delays in getting started were observed. Essentially, everyone was not writing until 12:40, a lapse of 20 minutes for a half hour writing project; no one in the class began writing until 12:30, a lapse of 10 minutes for prewriting.
>
> By the end of the period, only one person (Karen N.) was finishing her theme. She turned her work in; all others continued writing. At 12:55,

several students asked if they could continue writing during the next period (which was five days away on Monday). I left this option open, but insisted that I would collect and grade their product at 1:00 today, whether or not they wished to continue writing. I stated that there would be no penalty for not finishing but that I would, of course, be more impressed with a work that was completed in the time allotted than with one that was left incomplete.

Two additional students, Dennis L. and Jan S., hurriedly finished by 1:00 and turned their work in, but both indicated doubt that they had really completed the assignment. All other papers but one were turned in uncompleted by 1:03. Only Wayne B. determinedly wrote on. I told him he would have to stop writing or he would receive no credit for the assignment. He demurred, said he needed extra time to finish. I told him he had already had extra time, that it would be unfair to give him still more time. Finally, begrudgingly, at 1:06 he turned in his paper.

In short, this initial in-class assignment produced responses typical of such assignments. I read the resulting papers but

left them unmarked and ungraded.

Revising with Semantic Organizers

The next step in the preliminary study occurred Monday, five days later, at the next class meeting. This class was observed by Dr. Ford Swetnam, a consultant for the project. The first portion of the period dealt with background and theory regarding right brain function and with orientation to the use of semantic organizers as a brainstorming and organizational procedure.

The theory of right brain function was discussed using the first two pages of a four page hand-out on the brain. After presentation of this theoretical material, semantic organizers were introduced as a means for tapping right brain potential in the prewriting process. While the class expressed some skepticism and lack of understanding during early discussion of this material, about fifteen minutes before the end of the hour, a number of students began making comments, "I see," "I got it," "That makes sense," indicative of understanding. Afterwards, Dr. Swetnam commented on his surprise at the comparative speed with which the class seemed to grasp the application of right brain theory to the formation of semantic organizers and the application of semantic organizers to the prewriting process.

During the first few minutes at the beginning of the next

hour of class, the students went through two sample organizers on the topics of "anger" and "feet," then wrote ten minutes on each topic following procedures outlined in Rico (11). After these two exercises, we proceeded to the next step in the preliminary evaluation study. I returned the unmarked themes from the previous class meeting and stated that the themes were to be totally revised or redone using a semantic organizer before writing began on the final product. In the past, my experience had been that such revisions usually required considerable preparation if they were to result in any significant improvements of the original. However, for purposes of the present study, I provided no preparation other than requiring the use of a semantic organizer.

Results of the Preliminary Study

Differences between the class's approach to the revision and their approach to the original assignment were immediately apparent. When the class was asked to begin their revisions with a semantic organizer, they all immediately began to work. The amount of time to complete the revision was markedly less than it had been for the original assignment even though the class was required to completely redo and rewrite the original. The students began work on their semantic organizers at 12:35. All had completed the organizers and had be writing by 12:39, a

lapse of just four minutes. No one was behind. Completions began with the first theme, Jan B.'s, turned in at 12:52. All revisions were completed and turned in by 12:55, five minutes before the end of the period.

Eleven students were present to complete both writing assignments, so evaluation of the results involved comparisons of the original with the revision of the themes of these eleven students. The investigators began their comparative readings by making notes of observations but without comment or consultation. Even without consultation both investigators immediately noted certain subtle but obvious and significant improvements in the revisions. All revisions, with the exception of one, were total revisions, resulting in an entirely new written product. This result in itself was significant for a first-time revision effort. Jayne S.'s revision was the one exception, and it consisted essentially of a recopying of the original with minor changes, a frequent approach of students to their first revision efforts. A follow-up interview with Jayne S. revealed that she simply did not yet understand the use of semantic organizers. With a little extra review of their use, she became proficient.

The most notable changes we observed in the revisions were the following: 1. Shift to a more complex mode, from narrative to comparison/contrast (3 cases); 2. Aiming for a clear goal and drawing to an identifiable closure of purpose (6 cases); 3. Sub-

division of a general topic into well defined subtopics (3 cases); 4. Use of paragraphing as a means for separating subtopics (4 cases); 5. Condensing of less important and amplification of more important elements (8 cases); 6. Three levels of embedding (3 cases); 7. Discovery and hence clarification of a thesis (9 cases); 8. Notable grammar and punctuation improvement (4 cases); 9. Syntax and clarity improvement (5 cases); 10. General organizational or dispositional improvement (9 cases).

As a result of these improvements, some of which seemed peripherally related to the use of semantic organizers, Dr. Swetnam and I decided to proceed with a descriptive study, using comparative evaluations but also adopting case study methods involving informal and formal interviews, close attention to observable individual improvements in attitudes toward writing, careful evaluation of individual writing improvements, and use of holistic methods for evaluating student improvements.

Early skepticism on both our parts toward the value of semantic organizers in the teaching of writing had been replaced with growing interest on Dr. Swetnam's part and by my own reluctant enthusiasm. As Dr. Swetnam said at the close of the evaluation session, "Maybe, you're really onto something here." For myself, I was almost willing to accept a more modest version of Rico's claims.

CONCLUDING RESULTS

As discussed previously, results of the study were evaluated both individually, involving close monitering of individual writing improvement and of changing student attitudes toward writing, and comparatively, involving the evaluation of three themes written by the experimental group and the control group on identical topics at three points during the course, the beginning, the middle, and the end.

Although I observed and documented student attitudes in the class, I found that the best source for evaluating changing attitudes was the students' own writing, particularly student journals, which all students were required to write in on a daily basis. No student reactions to the use of semantic organizers were explicitly solicited; however, by the end of the class, all students in the experimental group had expressed themselves in writing, often more than once, about the effects they felt semantic organizers had had on their writing. All expressed responses to the use of organizers were favorable although, in fact, students were very frank in their criticisms of other aspects of the class, including the use of the textbook, the keeping of notebooks, and so on. The lack of criticism of the semantic organizer did not seem to result from unwillingness to be critical of the class.

To conclude, I would like to survey some representative

student responses, indicating the results of the comparative evaluations and drawing some conclusions that recommend possible future areas of study for the use of semantic organizers as a tool for the teaching of student writing.

Student Responses

Responses by students to the use of semantic organizers were notably favorable. No student indicated that he thought the use of organizers was not helpful to his writing; several indicated that it was particularly useful, even the most helpful device they had learned to improve their writing. Of those who viewed its use most favorably, I have selected three to discuss in greater depth. Three other students -- although they expressed favorable responses to the use of semantic organizers -- did not have entirely successful experiences in the class; these three cases I will also consider in depth. The three cases I have selected as favorable cases illustrate three different apparent benefits of the use of semantic organizers, improvement in writing generally, improvement in organization and time management involving written work, and improvement in attitude towards writing.

Cynthia N. demonstrated the greatest improvement in writing of anyone in the class. Her first paper was a bare C-/D+; the revision of that paper when regraded only brought her to a C-.

Her next paper after the revision exercise which introduced semantic organizers, however, was a C+ on the initial draft and a B- on the revision. From there she progressed to a solid B+ and finally to an A on both initial drafts and revisions.

In discussing her writing with her, I inquired what her biggest problem seemed to be on the initial drafts which were written in-class. She said she had always had trouble writing under pressure, and nothing she tried seemed to help the problem. As the quarter pregressed and she made notable improvements with her work under pressure, I again discussed her writing with her. Voluntarily, she attributed her improvement to the use of semantic organizers. Clearly, her confidence in her ability to write satisfactorily under pressure had grown markedly since my earlier discussions with her.

In noting the reasons why the semantic organizer was helpful to her, Cynthia N. suggested the following: The semantic organizer helped her "remember ideas," helped her "order my paper" after the ideas were written down, helped her "develop paragraphs," and helped her "begin writing more quickly." She also noted that the organizers were "quick and easy" to develop. In an interesting comment she said that the benefit of the organizer over her previous system of jotting down linear notes before she began writing was that the organizer did not commit her to an "order" of topics in her paper before she had her

ideas down. The linear notes, she said, seemed to "compel" her to follow that order in which she jotted the notes down without rearranging and without subordinating some topics to others. Besides being more suggestive of additional ideas than the linear system, Cynthia N. felt that semantic organizers aided her most in helping her subordinate and rearrange topics and subtopics:

> The problem I had was not a lack of ideas about my subject but a confusion over how to approach it. What was most important, and what supported the theory (thesis), were questions I often left unanswered even by the end of my paper. By brainstorming with a semantic organizer I have all my ideas in view and then the task I have is only to organize them. I understand now what is meant by the claim that a story writes itself. When all the ideas are organized it is simply a matter of writing them down in the order that the paper dictates (Quote from Cynthia N.'s notebook, dated August 15, 1984).

Cynthia N., a single, full-time student in nurses' training, is financially dependent on her parents. In contrast, Dennis L. is in the same program but he has a wife and child to support while attending school full-time. Understandably, his most favorable

reaction to the use of semantic organizers was his perception that they saved him time in doing his required written assignments for his program as a student nurse. One of his journal entries reads as follows:

> At last a chance to sit down. It sometimes is indescribable. Some days, like today, are so busy I can't hardly [Student writing is reproduced as written with errors included.] catch my breath. . . .
>
> It works! I have just tried to apply a semantic organizer to a disease process card. I was doing a card on Autism and was stumped by one particular nursing intervention. I tried it. I put the words that came to mind around the particular intervention and was able to make a relatively logical rationale for my action. The potential for this is phenomenal! This should be taught as a basic concept of all writing classes. I am still a little foggy as to whether both sides of my brain are functioning or not, but the idea has incredible potential (Quoted from Dennis L.'s journal entry for July 25, 1984).

The week following this outpouring of enthusiasm for semantic organizers, Dennis L. and four other students from the class had a five day conference report to prepare on a nursing activity that they had participated in. Dennis L. convened the five participants each evening and prepared a semantic organizer for that day's principal activities. At the end of the week, the group convened again and prepared a semantic organizer from which to draft their conference report. All reported very positive results from the use of semantic organizers for this project.

Michael W., who was one of these five students, noted that he benefited considerably from the use of semantic organizers. While Cynthia N. and Dennis L. were both essentially positive about the value of writing well from the outset of the class, Michael W. was clearly negative in his initial attitudes towards writing and its usefulness. Quotes from his journal for the first four days of class clearly illustrate this attitude:

> We are halfway through the quarter today. I can think of almost nothing except how much work I have to do and how much I want to get out of here. I feel like I have felt in jail, with a restless burning in the pit of my stomach (July 16, 1984).

> Major depression has set in. I don't care about anything. I don't care about school. I don't do anything (July 17, 1984).
>
> Sure is a nice summer going by. Too bad I'm missing it. This place is so damn boring, I feel like by the time I get out of here I won't remember how to have fun. I can see how after enough time, functional depression could turn into a major or manic depression (July 18, 1984).
>
> Nice hot day -- too bad we are pissing away this whole summer. I am so burnt-out. I hate Fridays, no sleep, tests, hotter th[illegible]ell and no water. This place needs an ocean, this place needs to be at the bottom of the ocean (July 20, 1984).

Not surprisingly, the quality of Michael W.'s work at the beginning of the class reflected his indifferent attitude.

However, after interviewing the five class members, including Michael W., who had prepared daily semantic organizers for their conference reports, my own journal entry concluded:

> Biggest change in attitude of all was observable in Michael W. Whereas previously he had barely paid attention in class, now he is highly enthusiastic and excited both about the use of

> semantic organizers and about his writing and his work in class generally. A D/D- student suddenly becomes a C+/B- student (August 6, 1984).

Michael W. did get a B by the end of the class, and his work with semantic organizers became among the most sophisticated in the class. He was the first student who on his own, before the matter was discussed in class, requested information on second-level subtopics in his organizers and began to use them. In one of his comments on the class, he notes, "The semantic organizer was a great exercise. I like the way it warms me up for writing. I am using a semantic organizer for all my papers now" (Notebook, August 5, 1984). Between Theme 1 and Theme 2 of the evaluative themes for the test group, Michael W. improved his score by a remarkable seven points, from 6 to 13.

While Cynthia N., Dennis L., and Michael W. had notable success with the use of semantic organizers, they are essentially representative rather than exceptional in their responses. Some additional student comments will illustrate:

> When I started this course I had never heard of a semantic organizer but I can see the benefit of it. I utilized a semantic organizer on a recent class book report I wrote for a nursing class. I found it to be a quick, easy, and logi-

cal tool to use. It was easier to express clear thoughts and concise ideas using an organizer as a writing tool (Kathleen M., Notebook, August 6, 1984).

The most difficult part of writing for me has been getting started. The semantic organizer approach you introduced has been very valuable. I find if I sit down and do this "brainstorming" before I start a paper I know what direction I am going and how to proceed. The organizer makes writing more fun because I don't struggle so hard getting started (Jan B., Notebook, July 31, 1984).

Organization has always been my biggest problem in terms of writing, and the use of semantic organizers has really helped a lot. I am finding the use of these semantic organizers slipping over into my everyday writing. . .and I have found them equally helpful for everything (Cheryl M., Notebook, August 7, 1984).

I feel that semantic organizers have been quite helpful to me in getting organized when writing a paper. They are an excellent way of making sure you write about the points you want

> to and in the order most appropriate. In this respect they have definitely made me a more organized writer (Karen N., Notebook, July 31, 1984).
>
> The most important thing I learned in this writing class was organization of my work. When I first learned about semantic organizers, I was confused by them, but they proved to be the most beneficial thing I learned. In using them I found it was much easier to relate the subject to the audience (Kathleen M., Notebook, August 14, 1984).

Learning consideration for one's audience as a by-product of semantic organizers is a surprising result of their use but was commented on even more directly by another student:

> [Planning my theme for an audience] is where the semantic organizer system came in handy. It was useful in narrowing my topic and organizing my thoughts and ideas. . . .Through this method I could talk about the more important details because the semantic organizer placed an overall view or picture in my mind (Nancy M., Notebook, August 15, 1984).

This characteristic of the semantic organizer as providing a picture of one's thoughts before writing seems to be one of its

key advantages and perhaps the most convincing rationale for why it engages the right hemisphere. Another student notes:

> Developing semantic organizers helps me to think of new approaches to a subject and yet enables me to remember all my other thoughts. . . . My papers have become a more accurate depiction of my thoughts (Debbie H., Notebook, August 14, 1984).

> [What I "gained" from this class on the use of semantic organizers], namely better techniques and a new attitude towards my writing has forced me to enjoy it [writing] in spite of myself (Cynthia N., Notebook, August 14, 1984).

Three Negative Cases

The three students who seemed to respond least to the concept of semantic organizers were also the three students who showed the least progress in the class in general. While their lack of significant writing progress cannot be attributed to semantic organizers, nevertheless, it indicates that the semantic organizer is not the cure-all vaunted by Rico and Downey.

While Karen N. responded favorably to the use of semantic organizers, much of the balance of her experience in the class was unfavorable. Her initial attitude towards writing was clearly poor and remained doggedly negative throughout the class. She started with a bare C- and her lack of motivation left her barely able to retain that grade through the course. She is quite frank about her attitude in her journal:

> Writing in this journal everyday gets to be a pain. I don't feel it helps my writing either. Several days go by without my feeling expressive enough or motivated enough to write in it. I don't enjoy writing; I don't even write letters to my best friends. I just don't have the time with the three hundred forty-two other things I have to do. Plus try and maintain some time for R and R so I don't burn out. I have to go now, there's a

> theme due tomorrow that I couldn't care less about, but I guess it's just another one of those things (Karen N., Journal, July 29, 1984).

Despite her favorable comment on semantic organizers (Notebook, July 31, 1984, quoted above), Karen N. changed little in her attitudes and improved only minimally in her writing during the course. But she did work much harder on one of her final projects than she had previously. As she remarks with some pride in her journal, "The group project I was involved in was well done" (August 14, 1984).

Jayne S.'s experience in the class was quite different from Karen N.'s. Although Jayne S. made a determined effort to use semantic organizers, she got off to a bad start. The semantic organizer helped her little in revising the theme that was a part of the preliminary study. Her revision showed no essential changes from the original, and her revised grade, in fact, was poorer than her original one. An interview with Jayne S. about this problem revealed the following:

> Follow-up discussion with Jayne S. to see what her problem was with semantic organizers and the revision assignment of July 23.
>
> The source of her problem was simple enough. She had gotten bogged down in details and hadn't been able to understand how to use the organizer.

> We went through the use of organizers again slowly with examples, and I think she made progress (My journal, July 24, 1984).

I was pleased later on to note in her journal entry for July 24 that she had made an effort to use the procedures we had discussed:

> I feel my classes are going good and I'm learning a lot from them. I even used the Semantic Organizer in some other papers I was writing and it worked very well (Jayne S., Journal, July 24, 1984).

Perhaps, the lesson of Jayne S.'s example is a lesson that is only too true of the experience of teaching writing in general. Assignments which allow for early successes are essential motivators for the teaching of all aspects of writing. Early failures lead to lingering failures.

Wayne B.'s numerous writing problems exceeded those of either Karen N., Jayne S., or anyone else in the class. He had trouble getting started; his writing was so ponderously slow that he had great difficulty getting any timed writing done in the allotted time; his grammar, usage, and spelling errors were numerous; and, while his attitude remained determinedly optimistic, his emotionalism frequently interfered with his ability to follow directions. Wayne B.'s problems became more

understandable once I learned his circumstances. Through an error in advisement, he registered in the second quarter composition class after having withdrawn from the first quarter's class. After the error was discovered, he was allowed to continue in the class as a special student. This allowed him to work independently to earn credit for the first quarter's class rather than the second.

Because of this registration error, Wayne B. is probably not a good test example. However, given the disadvantage with which he began the class, he made reasonable progress, particularly in his ability to produce a coherent written product in an assigned amount of time. His test results were at the bottom of the class for both the first and the third test themes at the beginning and end of the class, but he did improve his score from Theme 1 to Theme 3 by 3 points, which was very reasonable improvement. At the end of the class he commented on the use of semantic organizers as follows:

> Through this class I have learned how to prepare a Semantic Organizer, witch has helped me organize my thoughts. The Semantic Organizer has help me not only organize my thoughts but has shown me ways in witch I can keep a large mental picture of a theme, while I make clear any minor point I may choose to expand on, with out loosing it (Wayne B., Notebook, August 14, 1984).

Clearly, while usage and spelling problems still plague his writing, Wayne B.'s ability to use prepositional phrases to begin sentences, subordinate clauses to qualify the general point of his main clause, and correlative conjunctions (even though incorrectly) to join appropriate elements of thought reflects the developing m turity of a basic writer.

However, a major problem is introduced by the example of Wayne B. At what point may beginning writers profitably be introduced to the use of semantic organizers? Clearly, Wayne B.'s writing seemed to benefit by their use, and his attitude towards their use remained positive throughout.

Finally, however, while these three cases cannot be regarded entirely as successes, each student in the class made progress with his writing, some of which progress must surely be attributed to the use of semantic organizers. Other than these three cases, the general development of the experimental group's writing is better illustrated by the positive responses of other students that we have already noted. It bears reiterating that all students in the class expressly responded favorably to the use of semantic organizers for their writing.

Results of the Comparative Evaluations

The comparison of results from the three test themes showed surprisingly strong general progress for the experimental group using semantic organizers while the progress of the control group was slightly better than what was anticipated for the test group as a whole. This result is surprising in that there was general agreement among the evaluators that the experimental group started from a lower base of writing achievement and maturity than did the control group. I would like to describe the method and results of this evaluation before drawing any conclusions from it.

The method of evaluation was simplicity itself. Dr. Harry Eiss and I, who taught respectively the control group and the experimental group, graded all themes of the three identical assignments at the beginning, middle, and end of the class. In addition, a third evaluator, Dr. Mary Blew, graded all three assigned evaluative themes, numbered 1, 2, and 3. All graders have a number of years of experience teaching a variety of levels of composition students.

Dr. Eiss and I consulted daily on the methods, approaches, and conduct of the classes so that each day they were handled in similar ways and covered comparable materials, but all grading was done independently without any consultation other than a prior understanding that themes would be evaluated holistically.

No one, however, had any information on final grades or comparative results until all grading was completed and turned in. Final grades were based on the sums of the three grades assigned by the three evaluators on a scale of 1 to 5 so that the maximum possible grade per theme would be 15, and the minimum possible grade would be 0.

After the results were compiled, the grades of individual graders were found to be notably similar. For instance, the largest discrepancy of grades on the first theme was the difference between the grades I assigned the experimental group and the grades Dr. Blew assigned them. Yet our grades for the group of fifteen themes totaled only 3 total points difference; her grades totaled 3 points above the total of the grades I assigned. Approximately, the same difference occurred in the control group between the grades of Dr. Eiss and Dr. Blew, but the discrepancy was slightly less than 3 points. In each case, Dr. Eiss's grades and my grades were even closer together. Thus, differences among grades assigned by individual graders were so small as to be regarded as negligible for overall comparisons (See Charts I and II, pages 42-43).

On this basis of evaluation, the mean grade for the experimental group for Theme 1 was 7.64 with a mode of 6.17 and a median of 7. The control group's mean was 9.02 with a mode of 10 and a median of 10. Thus, the control group, as noted, began

with a base mean score 1.38 points above the mean of the experimental group, enough of a difference to be regarded as notable.

On Theme 2, the results were reversed with the experimental group obtaining a mean score of 11.09, 3.45 points above the mean score of Theme 1, with a mode of 12.17 and a median of 12. The control group's mean score declined negligibly, a result which is not unusual for developmental writers at this stage (See Kerek, Daiker, and Morenberg, 84-85). Their mean score was 8.93 with a mode of 11, having increased by 1 point, and a median of 10, identical to their median score on Theme 1.

On Theme 3, the results drew somewhat closer together again. The mean for the experimental group was 10.89, a negligible decline of .2 points from Theme 2, with a mode of 11 and a median of 11, both having declined about 1 point. The mean of the control group was 9.64, a rise of .71 points from Theme 2, with a mode of 10.33 and a median of 10, both markedly consistent with their grade results on the two earlier themes.

Overall comparisons between Theme 1 and Theme 3 indicated a rising mean of 3.25 for the experimental group with a rising mode of 4.83 points and a rising median of 4 points. The control group showed a rising mean of .62 points with a rising mode of .33 points and no change in the median.

Since number grades were assigned throughout on a rising scale of expectations -- i.e., what could be expected from the

writing of a student writer at the beginning of his second quarter of composition work, at the middle, and at the end, respectively -- the achievement of the control group should be regarded as slightly exceeding expectations. This result is also reflected in individual student performances with 9 of 15 members of the control group doing better work at the end, 5 doing less well, and 1 scoring the same.

However, the same standards were used for scoring the work of the experimental group, making their achievement even more significant. Not only did the average grades of the experimental group rise from beginning to end but also every experimental student's grade was higher on Theme 3 than on Theme 1, the smallest difference being a rise of 1 point for a student who scored near the top of both themes, 13 on Theme 1 and 14 on Theme 3.

CHART I: COMPARATIVE SCORES

	THEME I		THEME 2		THEME 3	
Average Scores	Control Group	Expt'l Group	Control Group	Expt'l Group	Control Group	Expt'l Group
Mean	9.02	7.64	8.93	11.09	9.64	10.89
Median	10	7	10	12	10	11
Mode	10	6.17	11	12.17	10.33	11

CHART I compares the average scores on Themes 1, 2, and 3 for the control group an
the experimental group.

CHART II: SCORE VARIATIONS

Average Scores	From THEME 1 to THEME 2		From THEME 2 to THEME 3		From THEME 1 to THEME 3	
	Control	Expt'l	Control	Expt'l	Control	Expt'l
Mean	decrease .09	increase 3.45	increase .71	decrease .2	increase .62	increase 3.25
Median	no change	increase 5	no change	decrease 1	no change	increase 4
Mode	increase 1	increase 6	decrease .67	decrease 1.17	increase .33	increase 4.83

CHART II compares the change or variation (increase or decrease) in average scores of the control group and the experimental group between THEME 1 and 2, 2 and 3, and 1 and 3.

Conclusions

Although this study is a modest one, it is difficult to escape the conclusion that semantic organizers can make a significant contribution to the teaching of composition. Not only do they seem to improve attitudes and increase motivation but the results of the comparative study also suggest a significant improvement in performance as well.

The improvement in performance due to semantic organizers might be regarded as even more significant when we make a comparison between the results of Theme 1 and of Theme 2. For the experimental group, the major difference between the two themes was that the class had been using semantic organizers for nearly two weeks at the time they wrote Theme 2. In fact, all students in the experimental group used semantic organizers as their prewriting procedure before writing Themes 2 and 3, although they were not specifically instructed to do so. Clearly, the grades show that the experimental group's greatest progress was made between Themes 1 and 2.

In her chapter "Beyond the Sentence" in Errors and Expectations, Mina Shaughnessy asserts that the beginning writer to meet his "responsibilities" to his reader "needs to in some way visualize his thoughts" (250, italics mine). Perhaps, the semantic organizer provides the precise visual, picturing device that is needed for this purpose.

Recommendations

I would strongly urge that more use and study of semantic organizers be undertaken with beginning and developmental writers. Particularly, the differences between Themes 1 and 2 and the notable improvements seen in the preliminary study suggest that comparisons should be undertaken involving differences in attitude and practice, particularly during prewriting procedures, of beginning writers before and after they are introduced to the use of semantic organizers. Study should also be given to the question of when the best time would be to introduce beginning writers to the use of semantic organizers -- before that time when they can make optimal use of them but after the time when the introduction of semantic organizers would simply add an additional element of confusion to the multifold other confusions that plague early developmental writers.

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